

STATEMENT OF LEGAL AND FACTUAL BASIS

Smith Gap Regional Landfill
Roanoke County, Virginia
Permit No. WCRO-21330
Permit Date: **March 15, 2006**
County – Plant No.: 51-161-0246

Title V of the 1990 Clean Air Act Amendments required each state to develop a permit program to ensure that certain facilities have federal Air Pollution Operating Permits, called Title V Operating Permits. As required by 40 CFR Part 70 and 9 VAC 5 Chapter 80, Roanoke Valley Resource Authority has applied for a renewal Title V Operating Permit for its Roanoke County facility. The Department has reviewed the application for renewal and has prepared a draft Title V Operating Permit.

FACILITY INFORMATION

<u>Permittee</u>	<u>Facility</u>
Roanoke Valley Resource Authority 1020 Hollins Road Roanoke, Virginia 24012-8011	Smith Gap Regional Landfill 8484 Bradshaw Road Roanoke County, Virginia

Prepared By:
Environmental Engineer Senior

Date: **March 15, 2006**

SOURCE DESCRIPTION

NAICS Code: 562212 – Refuse Systems: Establishments primarily engaged in the collection and disposal of refuse by processing or destruction or in the operation of incinerators, waste treatment plants, landfills, or other sites for disposal of such materials.

Landfilling / Managing Solid Waste: The facility is a solid waste landfill. Waste is received at the landfill by rail. The rail cars are emptied and the waste is then loaded into dump trucks for

transport to the working face of the sanitary landfill for final disposal.

The facility has had no previous air construction permits (currently has a Title V Federal Operating Permit). The facility is considered a new source under Virginia regulations. 9 VAC 5-40-5800 applies only to facilities constructed prior to May 30, 1991. The facility was constructed between May 30, 1991 and October 21, 1994. Facilities constructed during that time frame were not required to undergo permit review. During that time, emissions from landfills were considered fugitive. In the October 21, 1994, memorandum from John Sietz, it was concluded that the EPA's 1987 guidance was in error and stated that, because landfill gas could be collected, it could not be considered fugitive and that new landfills should be evaluated for PSD and non-attainment applicability. The memo also stated that landfills which had already been constructed should not be re-evaluated; the requirement to review landfill gas emissions only applied to landfills constructed or modified after the date of the memo.

The facility is a Title V source per NSPS Subpart WWW due to the design capacity of the landfill exceeding the threshold capacity for applicability. This source does not emit at major source emission levels, and the Title V permit applies only to the sanitary landfill disposal area. The source is located in an attainment area for all pollutants, and is a PSD minor source.

In June of 1996, the facility reported a Tier 1 emissions estimate in excess of 50 Mg/yr. The facility noted its intent to perform a Tier 2 analysis. The facility submitted a projected five year NMOC emission rate report based on the Tier 2 analysis, demonstrating an NMOC emission rate of less than 50 Mg/year for each of the five years. The updated Tier 2 analysis for the facility was submitted October 10, 2002 based on the newly determined site specific NMOC. The next Tier II analysis is due in 2007.

A permit exemption was issued to the source for an emergency generator on April 21, 1998.

COMPLIANCE STATUS

The facility is inspected at least once per year. The facility is currently in compliance. The facility has been cited for reporting requirements and fugitive dust in the past.

EMISSION UNIT AND CONTROL DEVICE IDENTIFICATION

The emissions units at this facility consist of the following :

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity *	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
Fuel Burning Equipment							
NA							
Process A							
EU-1	NA	Landfill disposal area	>2.5 x10 ⁶ Mg & 8.64x10 ⁶ m ³ >2.5x10 ⁶ m ³	uncontrolled	NA	NMOC	NA
Process B							
NA							

EMISSIONS INVENTORY

2004 Emissions

POLLUTANT	TPY
VOC	16.2
CO	2.87
NMOC	16.2
Toluene	5.98
Benzene	0.92

EMISSION UNIT APPLICABLE REQUIREMENTS

Limitations

LFG Collection and Control System: Design and Operational Standards - Within 30 months of the first annual emission rate report in which the emission rate equals or exceeds 50 megagrams per year, the permittee shall install a landfill gas collection and control system which:

- a. Is designed to handle the maximum expected gas flow rate from the entire area of the landfill;
- b. Collects gas from each area, cell or group of cells in which initial solid waste has been in place for a period of:
 1. 5 years or more if active; or
 2. 2 years or more if closed or at final grade;
- c. Collects gas at a sufficient extraction rate;
- d. Is designed to minimize off-site migration of subsurface gas;
- e. Reduces NMOC by 98 weight-percent or, for an enclosed combustion device, either reduces NMOC by 98 weight-percent or reduces the outlet concentration to less than 20 ppmv, dry, as hexane, at 3 percent oxygen.
- f. Maintains the methane concentration at the surface of the landfill at less than 500 ppmv above the background level.

(9 VAC 5-50-410, 40 CFR 60.752, & 9 VAC 5-40-5820 (C)(2)(b.)&(c.))

Requirements When Reported NMOC Emission Rate > 50 Mg/yr - If the reported NMOC emission rate, in the initial, annual or revised 5-yr report, is equal to or exceeds 50 megagrams per year, the permittee shall:

- a. submit an LFG gas collection system and control plan, or
- b. within 180 days of the emission rate report, demonstrate, using a site specific NMOC concentration (Tier 2), that NMOC emission do not equal or exceed 50 megagrams per year, submit a revised NMOC emission rate report, resume annual NMOC emission rate reporting, and retest the site specific NMOC concentration every 5 years.

(9 VAC 5-50-410, 40 CFR 60.757 and 40 CFR 60.754(a)(3))

Requirements When NMOC Emission Rate > 50 Mg/yr (when using site specific C_{NMOC}) If, using a site specific NMOC concentration, the NMOC emission rate is equal to or exceeds 50 megagrams per year, the permittee shall:

- a. submit an LFG gas collection system and control plan, or
- b. within 1 year of the emission rate report, demonstrate using a site specific methane generation constant (Tier 3), that NMOC emission do not equal or exceed 50 megagrams per year, submit a revised NMOC emission rate report and resume annual NMOC emission rate reporting.

(9 VAC 5-50-410, 40 CFR 60.757 and 40 CFR 60.754(a)(4))

LFG Collection and Control System Design Plan - The landfill gas collection and control system design plan shall be submitted to EPA and the Air Compliance Manager, West Central Regional Office, within one year after submitting the NMOC emission rate report, reporting an NMOC emission rate which equals or exceeds 50 megagrams per year.

(9 VAC 5-50-410 & 40 CFR 60.757 (c))

Solid Waste Permit Amendment - If the permittee is required to install a gas collection and control system according to the provisions of 9 VAC 5-50-410 Subpart WWW, the permittee shall apply for a solid waste permit amendment in accordance with Part VII (9 VAC 20-80-480 et seq.) of 9 VAC 20 Chapter 80 (Solid Waste Management Regulations)

(9 VAC 20-80-480 et seq. & 9 VAC 5-170-160)

Title V Operating Permit Amendment - If the permittee is required to install a gas collection and control system according to the provisions of 9 VAC 5-50-410 Subpart WWW, the permittee shall apply for a title V operating permit significant permit revision within 90 days of date of approval of the gas collection and control plan.

(9 VAC 5-80-230)

Monitoring

The facility is required to compare annual waste acceptance with its projected waste acceptance rate according to the conditions in the permit once per year. The facility currently projects its 5 year NMOC emission rate based on site specific data. The permit identifies the steps to be followed when the acceptance rate exceeds the projected acceptance rate.

Recordkeeping

The permit includes requirements for maintaining records of all monitoring and testing required by the permit. These records include:

- a. Current maximum design capacity, current amount of refuse in place, and year by year refuse accumulation rates.
- b. Description, location, amount, and placement date of all non-degradable refuse including asbestos and demolition refuse placed in landfill areas which are excluded from landfill gas estimation and excluded from landfill gas collection and control.
- c. Installation date and location of all vents, wells and flares.
- d. Copies of all reports, notifications and emissions estimates
- e. Testing results, including field notes, raw data, methods, locations of sampling...

Testing

The permit requires source tests to determine the NMOC emission rate in lieu of installation of a landfill gas collection and control system. The Department and EPA have authority to require testing not included in this permit if necessary to determine compliance with an emission limit or standard.

Reporting

The permit requires notification and reporting required under the Federal Operating Permit program and 40 CFR 60.757 (NSPS Subpart WWW) . Required reporting includes annual compliance certification, initial NMOC report, annual NMOC emissions report with an option to project emissions over a five year period, malfunction and deviation reporting (when applicable), and submission of amended NMOC emission reports when threshold emission levels are exceeded. Reports must be sent to EPA and the DEQ (Air Compliance Manager, West Central Regional Office).

Streamlined Requirements - N.A.

GENERAL CONDITIONS

The permit contains general conditions required by 40 CFR Part 70 and 9 VAC 5-80-110, that apply to all Federal operating permit sources. These include requirements for submitting semi-annual monitoring reports (when monitoring is at least semiannual, semiannual reports not required when only submitting annual NMOC emission report or projected 5 year NMOC emission report) and an annual compliance certification report (always required). The permit also requires notification of deviations from permit requirements or any excess emissions.

Comments on General Conditions

B. Permit Expiration

This condition refers to the Board taking action on a permit application. The Board is the State Air Pollution Control Board. The authority to take action on permit application(s) has been delegated to the Regions as allowed by §§2.1-20.01:2 and §10.1-1185 of the Code of Virginia, and the “Department of Environmental Quality Agency Policy Statement NO. 3-2001”.

This general condition cites the entire Article that follows:
Article 1 (9 VAC 5-80-50 et seq.), Part II of 9 VAC 5 Chapter 80. Federal Operating Permits for Stationary Sources

This general condition cites the sections that follow:

- 9 VAC 5-80-80. Application
- 9 VAC 5-80-140. Permit Shield
- 9 VAC 5-80-150. Action on Permit Applications

F. Failure/Malfunction Reporting

Section 9 VAC 5-20-180 requires malfunction and excess emissions reporting within four hours of discovery. Section 9 VAC 5-80-250 of the Title V regulations also requires malfunction reporting; however, reporting is required within two days. Section 9 VAC 5-20-180 is from the general regulations. All affected facilities are subject to section 9 VAC 5-20-180 including Title V facilities. Section 9 VAC 5-80-250 is from the Title V regulations. Title V facilities are subject to both sections. A facility may make a single report that meets the requirements of 9 VAC 5-20-180 and 9 VAC 5-80-250. The report

must be made within four daytime business hours of discovery of the malfunction.

This general condition cites the sections that follow:

9 VAC 5-40-50. Notification, Records and Reporting

9 VAC 5-50-50. Notification, Records and Reporting

H. Malfunction as an Affirmative Defense

The regulations contain two reporting requirements for malfunctions that coincide. The reporting requirements are listed in sections 9 VAC 5-80-250 and 9 VAC 5-20-180. The malfunction requirements are listed in General Condition H and General Condition F. For further explanation see the comments on general condition F.

This general condition cites the sections that follow:

9 VAC 5-20-180. Facility and Control Equipment Maintenance or Malfunction

9 VAC 5-80-110. Permit Content

M. Permit Modification

This general condition cites the sections that follow:

9 VAC 5-80-50. Applicability, Federal Operating Permit For Stationary Sources

9 VAC 5-80-190. Changes to Permits.

9 VAC 5-80-260. Enforcement.

9 VAC 5-80-1100. Applicability, Permits For New and Modified Stationary Sources

9 VAC 5-80-1790. Applicability, Permits For Major Stationary Sources and
Modifications Locating in Prevention of Significant Deterioration Areas

9 VAC 5-80-2000. Applicability, Permits for Major Stationary Sources and Major
Modifications Locating in Nonattainment Areas

Y. Asbestos Requirements

The Virginia Department of Labor and Industry under Section 40.1-51.20 of the Code of Virginia also holds authority to enforce 40 CFR 61 Subpart M, National Emission Standards for Asbestos.

This general condition contains citations from the Code of Federal Regulations as follows:
40 CFR 61.145, NESHAP Subpart M. National Emissions Standards for Asbestos as it applies to demolition and renovation.

40 CFR 61.148, NESHAP Subpart M. National Emissions Standards for Asbestos as it applies to insulating materials.

40 CFR 61.150, NESHAP Subpart M. National Emissions Standards for Asbestos as it applies to waste disposal.

This general condition cites the regulatory sections that follow:

9 VAC 5-60-70. Designated Emissions Standards

9 VAC 5-80-110. Permit Content

STATE ONLY APPLICABLE REQUIREMENTS

The following Virginia Administrative Codes have specific requirements only enforceable by the State and have been identified as applicable by the applicant:

-None Identified

FUTURE APPLICABLE REQUIREMENTS

-None Identified-

INAPPLICABLE REQUIREMENTS

The startup, shut down, and malfunction opacity exclusion listed in 9 VAC 5-40-20 A 3 cannot be included in any Title V permit. This portion of the regulation is not part of the federally approved state implementation plan. The opacity standard applies to existing sources at all times including startup, shutdown, and malfunction. Opacity exceedances during malfunction can be affirmatively defended provided all requirements of the affirmative defense section of this permit are met. Opacity exceedances during startup and shut down will be reviewed with enforcement discretion using the requirements of 9 VAC 5-40-20 E, which state that "At all times, including periods of startup, shutdown, soot blowing and malfunction, owners shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with air pollution control practices for minimizing emissions."

COMPLIANCE PLAN - NA

INSIGNIFICANT EMISSION UNITS

The insignificant emission units are presumed to be in compliance with all requirements of the Clean Air Act as may apply. Based on this presumption, no monitoring, recordkeeping or reporting shall be required for these emission units in accordance with 9 VAC 5-80-110.

Insignificant emission units include the following:

Emission Unit No.	Emission Unit Description	Citation	Pollutant(s) Emitted	Rated Capacity
EU-3	Leachate Storage Tank	9 VAC 5-80-720 B	VOC	750,000 gallons
EU-4	Emergency Generator	9 VAC 5-80-720 C	NO _x , VOC, PM ₁₀ , CO, SO ₂ , HAP=s	250 kW, <500 hours/year
EU-5	Radiant Heaters	9 VAC 5-80-720 A	NO _x , VOC, PM ₁₀ , CO, SO ₂	60,000 to 360,000 Btu/hr
EU-6a	Waste Oil Storage Tank	9 VAC 5-80-720 C	VOC, HAP	1,000 gallons
EU-6b	Gasoline Storage Tank	9 VAC 5-80-720 B	VOC, HAP	2,000 gallons
EU-6c	Diesel Fuel Storage Tank	9 VAC 5-80-720 B	VOC, HAP	10,000 gallons

¹The citation criteria for insignificant activities are as follows:

9 VAC 5-80-720 A - Listed Insignificant Activity, Not Included in Permit Application

9 VAC 5-80-720 B - Insignificant due to emission levels

9 VAC 5-80-720 C - Insignificant due to size or production rate

CONFIDENTIAL INFORMATION - NA

PUBLIC PARTICIPATION

The public comment period for the draft/proposed permit will be advertised in the Roanoke Times on January 8, 2006. The Public Comment Period will run from January 8, 2006 through February 8, 2006. The EPA 45 day review period ran from January 8, 2006 through February 22, 2006.

No comments were received from the public during the 30 day public comment period which closed February 8, 2006. No comments were received from EPA during the EPA 45 day review period which closed February 22, 2006.